just to ourselves nor kind to our colleagues of other lands to ask them to give large printing space to our contributions." It is evident that the new journal will relieve this pressure somewhat, which the established journals have felt keenly.

This initial number contains the following papers: "The development of *Agaricus arvensis* and *A. comtulus*," by GEO. F. ATKINSON; "Studies of teratological phenomena in their relation to evolution and the problems of heredity. I," by ORLAND E. WHITE; "Nuclear behavior in the promycelia of *Caeoma nitens* Burrill and *Puccinia Peckiana* Howe," by L. O. KUNKEL; and "An axial abscission of *Impatiens Sultani* as the result of traumatic stimuli," by R. A. GORTNER and J. A. HARRIS.—J. M. C.

Illinois Academy of Science.—The volume of *Transactions* of the Illinois Academy of Science for 1913 contains the following botanical papers: "Annotated list of the algae of eastern Illinois," by E. N. TRANSEAU; "Reproduction by layering in the black spruce," by GEO. D. FULLER; "Evaporation and soil moisture on the prairies of Illinois," by E. M. HARVEY; and "The stratification of atmospheric humidity in the forest," by GEO. D. FULLER, J. R. LOCKE, and WADE MCNUTT.—J. M. C.

NOTES FOR STUDENTS

Paleobotanical notes.—ARBER[3] has done a most useful service in revising the seed-impressions of the British Coal Measures, and putting them into more definite categories. The most recent list, that of KIDSTON in 1894, included 5 genera with 19 species. ARBER'S revision contains 14 genera with 37 species. These detached seed-impressions belong to both Cycadofilicales and Cordaitales, whose seeds cannot be distinguished. Of the 14 genera recognized 9 are new (*Platyspermum*, *Cornucarpus*, *Samarospermum*, *Microspermum*, *Megalospermum*, *Radiospermum*, *Neurospermum*, *Schizospermum*, *Pterospermum*). In addition to the diagnosis of genera and species, every British species is figured.

Mrs. ARBER[4] has examined sections of a new specimen of *Trigonocarpus*, showing that the sclerenchyma of the micropylar beak is preserved as far as its extreme apex, and also that the nucellus was free from the integument almost to the base of the seed.

KNOWLTON[5] has described a collection of Jurassic plants from Alaska, obtained between latitudes 68° and 69°. SEWARD'S report on a collection of

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[3] ARBER, E. A. NEWELL, A revision of the seed-impressions of the British Coal Measures. Ann. Botany **28**:81–108. *figs. 8. pls. 6–8.* 1914.

[4] ARBER, AGNES, A note on *Trigonocarpus*. Ann. Botany **28**:195, 196. *fig. 1.* 1914.

[5] KNOWLTON, F. H., The Jurassic flora of Cape Lisburne, Alaska. U.S. Geol. Survey. Professional paper 85-D. pp. 39–55. *pls. 5–8.* 1914.

Jurassic plants from Siberia (Amurland) makes a comparison of Alaskan and Siberian Jurassic floras possible. KNOWLTON concludes that the striking similarity between the Jurassic floras of northwestern North America and eastern Siberia shows that the land connection between these regions during the Jurassic must have been practically continuous. The Alaskan list recognizes 12 genera and 17 species, the solitary species of *Equisetum* being described as new. The dominance of cycadophytes is obvious, so far as it can be inferred from so small a number of species, the list being as follows: pteridophytes 5; cycadophytes 11; and *Ginkgo* represented by a single species.

SALISBURY[6] has described in detail a new species of *Trigonocarpus* obtained from the Lower Coal Measures at Shore Littleborough, England. In addition to the well marked features of the sclerotesta and sarcotesta, the nucellus is almost completely free from the integument, and has a well developed and thick walled epidermal layer, three longitudinal flanges corresponding with the commissures, and numerous secretory sacs in the ground tissue. The conclusion is reached that this species is more primitive than its congeners, and that the testa arose from the lateral fusion of a whorl of six originally free members. A discussion of the resemblances and differences between the Trigonocarpeae and the Lagenostomales reaches the conclusion that they are to be explained by intercalated growth, followed by subsequent fusion of the nucellus and integument.

Dr. STOPES[7] has published a very interesting lecture upon the past and future of paleobotany, delivered at University College, London. The thesis is that paleobotany is now an independent science, contributing to both botany and geology, and with its own important field.

THOMAS and BANCROFT[8] have made a detailed comparative study of the cuticle of recent and fossil cycads, including also mention of other gymnosperms, especially with reference to the form and structure of the stomata. The general conclusion is that the characters presented by the stomata and epidermal cells of gymnosperms are important as indicating to some extent their relationships. Among the cycadophytes there are some characters which have undergone little modification from the Jurassic to the present time, and the authors conclude that stomatal structure is the expression of ancestral characters rather than of purely local and temporary conditions of environment.—J. M. C.

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[6] SALISBURY, E. J., On the structure and relationships of *Trigonocarpus shorensis*, sp. nov. A new seed from the Paleozoic rocks. Ann. Botany **28**:39–80. *figs. 8. pls. 4, 5.* 1914.

[7] STOPES, MARIE C., Paleobotany; its past and its future. Knowledge **37**: 15–24. 1914.

[8] THOMAS, H. HAMSHAW, and BANCROFT, NELLIE, On the cuticles of some recent and fossil cycadean fronds. Trans. Linn. Soc. London II. Bot. **8**:155–204. *figs. 32. pls. 17–20.* 1913.